Undergraduate Programme in Mathematics

**Module name**: Programming I Laboratory

**Module level, if applicable**: Bachelor

**Code, if applicable**: M1112

**Subtitle, if applicable**: -

**Courses, if applicable**: Programming II Laboratory

**Semester(s) in which the module is taught**: 1st (first)

**Person responsible for the module**: Guntur Budi Herwanto, M.Cs.

**Lecturers**: Guntur Budi Herwanto, M.Cs.

**Language**: Bahasa Indonesia

**Relation to curriculum**: Elective course in the first year (2nd semester) Bachelor Degree

**Type of teaching, contact hours**: Undergraduate degree program: lectures, < 30 students

**Workload**: 1. Lectures: 1 x 100 = 100 minutes (1.5 hours) per week. 2. Exercises and Assignments: 2 x 60 = 120 minutes (2 hours) per week. 3. Private study: 2 x 60 = 120 minutes (2 hours) per week.

**Credit points**: 1

**Requirements according to the examination regulations**: A student must have attended at least 75% of the lectures to sit in the exams.

**Recommended prerequisites**: Programming II

**Module objectives/intended learning outcomes**: Midterms examination and Final examination.

- CO 1. having knowledge about the theory and implementation of the basic concepts of algorithms and data structures;
- CO 2. can implement the basic theories and concepts of Object Oriented Programming (OOP);
- CO 3. can build a computer program based on OOP;
- CO 4. can implement linear data structures such as linked lists, stacks and queues;
- CO 5. can implement advanced sorting algorithms in computer programs;
- can implement non-linear data structures such as matrices, multiple linked list and tree as well as a graph.

**Content**: Programming Lab I is a compulsory course given to students of the first semester at Department of Computer Science FMIPA UGM. This course provides the knowledge students so that they are able to recognize the definition of programming, translating an algorithm mapping basic concept into algorithmic language, and able to solve its using computer programming.

**Study and examination requirements and forms of examination**: Final examination

**Media employed**: LCD, whiteboard, websites, handouts

**Reading List**: 

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